Guiding Principles and guidelines

To create

Conservation and Management Plan for

Community Forest Resource of

Gramsabhas with Community Forest Rights

(New pathways in the age of knowledge)

Vijay Edlabadkar

(vijay.janavigyan@gmail.com)

Madhav Gadgil

(madhav.gadgil@gmail.com)

Introduction

In Maharashtra as well as in other states of the country, the Gram Sabhas in tribal dominated areas have started demanding for community forest rights under the Forest Rights Act 2006 Act. In Maharashtra, Gram Sabhas have obtained such community forest rights in large numbers. As per the amended rules 2012 of this Act, the committee constituted under rule 4(a) clause (d) is expected to prepare a "Conservation and Management Plan (CMP)" i.e. forest working plan for the forest in its area and the Gram Sabha has to manage the forest resource accordingly.

But Gram Sabha members with technical know-how required to prepare such a CMP are generally not available in such areas. Keeping this in mind, Vidarbha Development Board, Nagpur had published a guidebook on the subject in 2016. The entire technical content in that booklet was written by the authors of this booklet. In the mean time we made many improvements in the techniques given in the earlier booklet and also added some new ones. Following scientific methodology, we have tested all these improved as well as new techniques on the ground.

The Department of Economics and Public Policy (Autonomous), University of Mumbai organized a diploma course on "Community Forest Rights" in Gadchiroli district from October 2018 to February 2019 with funding from Department of Tribal Development, Govt. of Maharashtra, Mumbai. Both of us were present full time during the duration of the course and took the responsibility of teaching technical component. 17 youths hailing mainly from Dhanora taluka, after completion of the course successfully, prepared Conservation and Management Plans for their respective Gramsabhas with the help of villagers and our guidance. We did this as a part of Gene Bank Project of Rajiv Gandhi Science and Technology Commission, Maharashtra State. As a result, the plans of all these 17 Gram Sabhas are now ready. Out of these 12 Gramsabhs

submitted their Plans to District level Convergence Committee, the District Collector being its Chairman. All of them were accepted and sanctioned.

At the time of writing this draft, Maharashtra Government's G.R. dated 12 September 2022 has been received. According to this GR, it seems that the works under PESA along with forest conservation and management plan, works under Thakkar Bappa tribal habitat improvement scheme etc. to be implemented under state and central government schemes at village level should be combined and works should be done in an integrated manner for permissible matters. The plan proposed here is only about the planning to be done for the community forest area related to forest resources. However, this plan will definitely be useful as 'Forest Resource Related Plan' component of Gram Sabha's Village Development Plan.

This guidebook is based on all this experience and is written in a way so that it will be of direct use to those engaged on the ground in the preparation of Conservation and Management Plans for CFR area.
We hope this will achieve our goal.

Vijay Edlabadkar
Madhav Gadgil

Contents

Background: 8

Part - One : Guiding Principles 11

1. Adaptive Management of Natural Resources 11

1.1 Knowledge based management 11

1.2 Scientific methods 11

1.3 Experimentation 11

1.4 Limitations of centralization 11

1.5 Participatory knowledge collection 12

1.6 People's knowledge 12

2. Linking of Community Forest and Biodiversity Management and Employment Guarantee Scheme 12

2.1 Biodiversity Act: 12

2.2 People's Biodiversity Register : 13

2.3 Sustainable harvesting of Minor Forest Produce (MFP): 13

2.4 Sustainable Bamboo Harvest: 16

2.4.1 Bamboo harvesting Cycle: 16

2.4.2 Rules for harvesting Bamboo 16

2.5 Employment Guarantee Scheme: 18

3. Governance structure and capacity building of Gram Sabha: 19

Part - Two : Guidelines: Conservation and Management Plan 19

(A) - Status 20

1. Introduction 20

1.1 Status before getting forest rights: 20

1.2 Status after getting Forest Rights: 21

2. Village History 21

3. Details of CFR Area : 21

3.1 Name of Gram Sabha : 21

3.2 Gram Panchayat :.....21
3.3 Taluka :.....21
3.4 District :.....21
3.5 Census Code :.....21
3.6 Geographical Position.....21
3.7 Demography :.....21
3.8. Land use pattern.....22
3.9 Farm Land.....23
3.10 Means of livelihood.....23
3.11 Facilities in the village.....23
3.12 Livestock.....24
3.13 Cropping Seasons.....24
3.14 Rainfall.....24
4 Rights and Responsibilities.....25
4.1 Date of Title of Community Forest Rights.....25
4.2 CFR Title.....25
4.3 Demarcation of CFR area-.....25
4.4 Nature of Community Rights :.....29
5. Objectives of Conservation and Management Plan (CMP) and Proposed Activities:.....29
6. Geographical information of Community Resource.....30
6.1 Maps:.....31
6.2 Forest Compartments.....31
6.3 All four Boundaries:.....32
6.4 Status of Boundaries:.....32
6.5 Landscape - Waterscape Elements in your area.....32
6.6 List of tapus :.....34
6.7 Threats to forest resources:.....35

7. Study of Organisms: 35
7.1 List of plants and qualitative abundance 36
7.2 Details of requirement and utilization of benefits under CFR 38
7.2.1 Uses - Food 38
7.2.2 Use - Fodder 38
7.2.3 Uses - Firewood 38
7.2.4 Use - Construction (House/Cattle Barn) 38
7.2.5 Use - Agricultural implements 38
7.2.6 Use - Fencing 38
7.2.7 Use - For cultural work 38
7.2.8 Uses - Medicinal use 38
7.2.9 Uses - Other uses (to be specified) 38
7.2.10 Information on forest produce collected for sale by the community 39
7.3 Quantitative estimation of plant species 40
7.3.1 Quantitative estimation of trees on selected landscapes: 40
7.3.2 Numerical Estimates for Bamboo on Different Landscapes 45
7.4 Rare trees, creepers, lianas, shrubs, herbs : 46
7.5. List of plants on private spaces: 47
8. Wildlife List: 48
9. Minerals 49
10. Capacity Building of Gramsabha 49
10.1 Organizations 49
10.2 Rules for self-governance 49
10.2.1 Rules for Patrolling Forest 49
10.2.2 Rules for grazing 49
10.2.3 Rules for the use of forest produce for gram sabha members 50
10.2.4 Rules for use of forest produce for outsiders 50
10.2.5 Rules for forest reserves such as Pengeda or Devarai 50

10.2.6 Rules for dealing with other gram sabhas and federations 50
10.2.7 Rules for Bank Account Transactions 50
10.2.8 Rules for account keeping 50
10.2.9 Rules regarding financial transactions / taxes / audits 50
10.2.10 Rules for dealing with other Gramsabhas and Gramsabha Federation . 50
11. Government Schemes 50
12. Time-Table of activities in different seasons 50
13. Livelihood programs based on Minor Forest Produce (MFP) 52
14. Festivals related to Natural Resources: 52
(B) - Planning 53
1. Bamboo Harvesting Cycle: (For ten years) 53
2. Sustainable MFP Harvesting : 56
3. Nursery: 57
4. Plantation: 57
5. Watershed development: 57
6. Forest ponds 58
7. Temporary Roads for Forest Management: 58
8. Fireline management: 58
9. Medicinal plant Nursery 58
10. Medicinal plant cultivation 58
11. Value addition and marketing of MFP : 58
12. Fish farming. 58
13. Roadside plantation and its maintenance. 58
14. Establishment of Biodiversity Reserve (Pengeda, Devrai or sacred grove): 58
Yearly planning for 10 years: 59
Annexures: 64
About the authors: 65

Background:

Man is an integral part of nature. The true tribal is the man who uses water, forest, land, animals and biodiversity for the necessities of life, preserves them without destroying the natural resources greedily to create personal wealth. Tribals and other traditional forest dwellers who have been living for many generations by adopting the same way of life, have collective natural rights over forest resources. However, the historic injustice caused by not recognizing their rights by the British in the pre-independence period and the government of India after independence was warded off by the Government of India by enacting the Forest Rights Act in 2006. Its rules were made with the participation of the people in 2008 and were amended in 2012.

The significant feature of this law is that it specifically mentions that the government is not giving anything new by recognizing the community rights of tribals and other traditional forest dwellers. While granting community forest rights, the rights over traditional forest resource, minor forest produce, grazing, water, biodiversity and its knowledge as well as rights over traditional forest resource management have been explicitly recognized. Section 5 of the Act clearly stipulates that the decision of the Gram Sabha will be final in all cases. The amended rules in 2012 clearly state that the Gram Sabha will formulate and implement its "Community Forest Protection and Management Plan" i.e. " Community Forest Resource Working Plan" through a committee constituted under Rule 4 (1) clause (d). But the Gram Sabha needed guiding principles on how to do this work and guidelines for their implementation.

The knowledge that human has acquired has revealed to it it's relationship with other elements of nature. Because of their mutual cooperation in these relationships, humans have also considered wildlife as their relatives. There is no other creature as destructive as man, but at the same time no other creature has conscience as man. Human traditions of using nature with

restraint, protecting nature, are very old, pre-scientific. In addition to such traditions, people have a lot of traditional, and more importantly, empirical knowledge useful for prudent planning and conservation of nature. Healthy nature gives a real benefit. Local people have real urge for nature conservation. The need of the hour is to combine people's science based on their experiential knowledge accumulated over generations with disciplined science and give an important role to the local people to plan, manage and protect nature.

It is a golden opportunity to combine Joint forest management and Acts like tribal self-rule, The Protection of Plant Variety and Farmers Right Act, biodiversity Act, and now Forest Rights Act to establish rights of the local people firmly over natural resources. In addition to these rights, people have a responsibility to use these resources wisely and sustainably. The National Employment Guarantee Program provides a good opportunity for the people to protect, conserve and revive natural resources. Through this, it is expected to strengthen the efforts of conservation of forest resources, as well as the overall development of forest dwellers. According to the Forest Rights Act, people will get community rights on land which has been used by the local community for ages, including the land under reserved and protected forests, sanctuaries and national parks. As per Section 3 (1) of the Forest Rights Act, these community rights include the following rights:

The right to own, collect, use or sell minor forest produce that are traditionally collected from within or outside the village boundaries. As per law minor forest produce includes bamboo, dried wood and stumps, vine, tusser, silk cocoon, honey, wax, lacquer, tendu, medicinal plants, tubers except timber plants.

Other community rights for use of forest resource including fish and other reservoir products, grazing - by locals and pastorals.

Right to protect, revitalize and manage all community resources that are being protected and conserved by the community for ages.

Right to collect biodiversity, Intellectual Property Rights on Biodiversity and Traditional Knowledge as well as Cultural Diversity.

Other traditional rights of forest dwellers, except for hunting rights

In addition, under Section 5, persons with forest rights, Gram Sabha and other local bodies have the following rights:

C) To protect wildlife, forest and biodiversity

B) Ensuring proper protection of the surrounding watersheds, water sources and ecologically sensitive areas.

C) To ensure that the habitats of forest dwellers are protected from any activities that destroy their natural and cultural heritage.

D) To ensure implementation of all decisions taken by the Gram Sabha regarding the use of community forest resources and actions to stop harm to wildlife, forests and biodiversity.

Section 7 of the Forest Rights Act stipulates that any government official or committee which violates these rights will be considered guilty and will be prosecuted as per law.

Obviously, the Forest Rights Act is an opportunity to "extend a helping hand" to various elements in society like government agencies, scientists and the general public. Only when people all the way down to the level of Gram Sabha are empowered, concrete progress can be made in this direction. The layout of this note is an attempt to discuss what steps can be taken in this regard.

Part - One : Guiding Principles

1. Adaptive Management of Natural Resources

1.1 Knowledge based management

The scientific understanding of area resource planning has grown exponentially recently. This is because of the study of climate and many other complex systems. Such complex systems change a lot over time and place. This requires careful, time- and place-based planning to suit the uniqueness and characteristics of each place and time.

1.2 Scientific methods

The Forest Working Plan should be considered a classical theorem - a working hypothesis - a tentative plan. It is assumed that if a given action is taken, certain outcome be seen from it. At the end of implementation of forest working plan and other government scheme, it should be checked with the cooperation of all whether these outcomes are really visible. If the expected results are not seen, then the reasons behind it should be explored and changes should be made in the procedure accordingly.

1.3 Experimentation

Today, science tells that planning for the environment should be done on the basis of continuous observation and experiences - changing it as needed. This is called adaptive management. In modern scientific management the attitude should be that every step of management is an experiment. In order to have such a scientific management, it is necessary to gather information about the details of the living beings not just once, but continuously.

1.4 Limitations of centralization

Information needs to be gathered by going into details for proper planning. On the one hand, there are not enough technically trained persons in this field; so if we want to collect information on such a large scale in a

decentralized manner, it is not possible without the participation of the people.

1.5 Participatory knowledge collection

For all the above reasons, it is necessary for all sections of the society to participate in nurturing and planning nature considering its inclination and adapting to it,

1.6 People's knowledge

People have many good traditions of nature conservation. Many people conserve nature automatically while doing their livelihood activities. The empirical knowledge of these people should be used for nature conservation and planning.

2. Linking of Community Forest and Biodiversity Management and Employment Guarantee Scheme

2.1 Biodiversity Act:

In 2002, India passed the Biodiversity Act. The objectives of the Act are protection of biodiversity, sustainable use and equitable sharing of benefits. Here the scope of biodiversity includes not only plants, but also reserved forest areas or land under the jurisdiction of the government revenue department. The law also covers aquatic life in sea and river, crops grown in agriculture, horticulture, floriculture and fruit trees. It includes livestock, and habitats for creatures. An authority has been set up at the national level for the implementation of this Act. The Biodiversity Board is functional at the state level. Many committees such as Joint Forest Management Committees, Watershed Management Committees have been set up so far at the level of Gram Panchayats or their constituent village. These are established or sacked at the whim of government departments. However, as per this Act, Biodiversity Management Committees will be constituted by all the local self-governing bodies and they will not need the permission or registration of any department to do so. These committees can establish their own biodiversity

fund. For this, a bank account can be opened to make transactions. For all these reasons, these committees are likely to be stronger and more functional.

2.2 People's Biodiversity Register :

The People's Biodiversity Register can be a good tool for biodiversity management and planning carefully by considering deeply details at the local level. In June 2006, the National Biodiversity Authority provided a streamlined framework for planning at the village level. Guidelines of this framework mentions that the National level instructions should be considered as the primary basis and if necessary time- and place-based changes in them may be made. Unfortunately, information useful for management and planning has been omitted in the government guidelines. But, planning and management of biodiversity is particularly important objective in our project. With these objectives in mind, this guide seeks to suggest how to collect information.

2.3 Sustainable harvesting of Minor Forest Produce (MFP):

After getting the Forest Rights, your ownership of the Minor Forest Produce has been recognized. This means that you can harvest, store, process and sell these MFP. But in doing so, our main responsibility is to ensure that the harvest is done in a sustainable manner. This means that the availability of the plants today should either increase or that it should remain the same so that they will be available for all generations to come. To ensure this, we have to harvest them carefully or sustainably. This method will be different for different MFP. Information about the sustainable harvesting is to be given here. Following information will be noted: Plant name, type i.e if MFP or a medicinal plant, use - domestic and/or sale, which part is to be harvested and what is its use, local people's perception of method of sustainable harvesting, if you are doing some processing to get better price and finally method for marketing.

Sr. No.	Name of the plant	MFP or Medicinal Plant	Use - Domestic and / or for sale	Which part is harvested	Use of harvested part	Method of sustainable harvesting	Processing if any for better price	Method for Marketing

What are sustainable harvesting methods?

So far only minor forest produce collection has not been given special attention in the context of forest management. As such rough methods can be suggested for sustainable harvesting of MFP. The Indian Institute of Forest Management, Bhopal has reviewed and suggested the following rules in this regard. Forest produce shall be collected according to:

- Forest produce should not be collected during heavy rains or during hot sunny day.
- The plants from which oil is extracted should be collected after two-three days after cessation of rains.
- Forest produce should not be collected from areas where there is water or air pollution due to chemical pesticides, traffic or industry.
- Wear gloves while collecting gum.
- Sharp knife or scissors should be used for harvesting forest produce and not axe.
- Plant species declared as threatened should not be touched.

- The plant species should be collected only from where it is available in abundance.
- Selected species should be collected carefully; other species should not be mixed carelessly.
- Only properly grown plants should be used for collection
- While collecting fruits, 25 percent of the fruits should be left for seeding and should not collected.
- While collecting seeds 30 percent of seeds should be left for regeneration and should not collected.
- While collecting flowers, 30 percent flowers of any plant should be left for regeneration and should not be collected.
- While collecting leaves, 70 percent leaves should be kept and not collected.
- While collecting tubers, only 20 percent of plants should be picked, other 80 percent of plants should not be touched. For plants that sprout from the roots like asparagus, only a portion of the roots should be collected.
- While collecting the whole plant, 50 percent of the plant population should be kept and not collected.
- Leaves and roots of seasonal plants should be collected only after they have flowered.
- While collecting the bark, the entire bark of any part should not be peeled, the bark should not be completely removed in some parts for the survival of the tree or shrub.
- As far as possible, the bark of the branches should be collected only, without collecting the bark of the main trunk.
- After peeling the bark, appropriate coating should be applied to the damaged area to prevent the infestation of fungi, insects, mice.

Whenever possible, for plants that are collected their saplings should be developed and deliberately planted for regenerated in their natural habitats.

2.4 Sustainable Bamboo Harvest:

If the bamboo is cut properly, we can harvest bamboo every year. For that, the bamboo cutting cycle has to be decided. Also, while cutting bamboo, it should be cut in a specific way.

2.4.1 Bamboo harvesting Cycle:

- Bamboo bearing tapus are divided into three groups
- Dense, medium and sparse bamboo tapus should be included in each group so that each group has approximately the same number of bamboos.
- Bamboos from one of the tapu-groups are harvested every year
- For harvesting the groups are selected in cyclic manner. If the groups are marked as 1,2 and 3 then the sequence for harvesting will be:

Year of harvest	Group number
First	1
Second	2
Third	3
Fourth	1
Fifth	2
Sixth	3
Seventh	1
..	2
..	3

- This will ensure nearly same quantity of Bamboo every year.

2.4.2 Rules for harvesting Bamboo

Through years of experience, some Gramsabhas have evolved rules on how to cut bamboo in a sustainable manner. They are mentioned below. Every Gramsabha is expected to make rules on similar lines.

1) One cannot go for bamboo cutting work without entering the name in the register of Gram Sabha.

2) The rate of harvesting, cleaning of clump and labour which will be decided by Gram Sabha will be final.

3) Mature bamboo above three years age should be cut at 1 foot from the bottom without damaging other bamboos in the clump.

4) At the time of harvesting, 8 (eight) mature bamboos of three years old should be kept in each clump.

5) No cutting can be done in the second bund unless the first bund has been cleaned, and no bamboo can be cut in the second bund unless instructed by the supervisor appointed by the Gram Sabha.

6) Bamboo has to be deposited at the place determined by the Gram Sabha. Long bamboo, medium bamboo and bamboo bundles should be piled separately.

7) It is also the duty of the laborers to ensure that there is no fire in the forest. However, if there is a fire, you have to leave work and go to put off the fire.

7) No work shall be done which will harm the forest, wildlife and animals.

8) One has to be present on time at the meeting of Gram Sabha on the day and place decided by the Gram Sabha.

9) One cannot go to cut bamboo in the second clump without cleaning the first clump.

10) The decision taken by the supervisor appointed by the Gram Sabha will be final and the labourers will have to accept it.

11) A person will not be allowed to cut more than 50 bamboos per day including long and medium bamboos.

12) In case of violation of the rules and conditions decided by the Gram Sabha, the right to work as a labourer will not be valid and the penalty decided by the Gram Sabha will have to be paid.

13) In case of any dispute in the said work, the final decision will be taken only in the official meeting of Gram Sabha.

14) Wages will be deposited in the bank account only and cannot be paid in cash.

15) The labourer should verify the calculations of wages and should sign/ give thumb impression only when the labourer is satisfied.

2.5 Employment Guarantee Scheme:

In 2006, the Government of India launched a National Employment Guarantee Scheme to address the problem of unemployment at the rural level. The far-reaching objective of this scheme is to increase the chances of self-employment of the people by developing the natural resources properly. At the same time, the immediate objective is to improve the economic condition of the people in rural areas by providing employment or unemployment benefits. This law intends to make it all transparent and with the full participation of the people.

The Gram Sabha has been given the power to decide on all the works to be undertaken under the National Employment Guarantee Scheme so that the people can do planning for all these programs. The Gram Sabha should plan the work as per needs of the families - which family needs work and when. In this, mainly soil-water conservation, forest protection and conservation works are to be taken. These works can also be taken on private lands of the tribal. It is insisted that the Gram Sabha should make such a plan ready by December every year, and if these works fall within the framework of the law, they must be approved. Gram Sabha can do all the work. But if that is not possible, then at least half of these tasks should be done by the gramsabhas. Other tasks should be assigned to

organizations such as self-help groups. Assigning these works to private contractors is strictly prohibited.

One of the problems is that planning of such work is new to the Gram Sabha. For that, we have to build their capacity. Providing them with a methodology and framework to do this will definitely be very useful. The National Employment Guarantee Scheme also emphasizes on the use of computers.

3. Governance structure and capacity building of Gram Sabha:
The management of community forest resources is the responsibility of the Gram Sabha under the Forest Rights Act. Only participatory, transparent and accountable governance structure and functioning will enable the Gram Sabha to fulfil this responsibility.

Part - Two : Guidelines: Conservation and Management Plan

In this section we will discuss how the Conservation and Management Plan should be designed and what information should be included in it. The layout consists of two main parts:

(A) Current Status : This first section will cover current scenario such as geographical information of Gram Sabha jurisdiction, their self-governance and useful information on natural resources including water, forest, land and forest resources etc.

(B) Planning : The second part will be planning for protection, conservation and sustainable use of forest resources. It will also detail which government schemes will be useful for implementing the program as per our planning and how it will be funded.

The various topics in this framework are divided into different sections with the titles. It then contains a brief description of what information is expected or to be filled. Attempts have been made to clarify the subject by giving examples in some places. Therefore, while writing the plan as per this outline, keep the title (which is underlined) and fill in the information as per the situation in your Gramsabha.

You can write down all the following information as per your convenience, make the necessary corrections and then enter it in the computer and take multiple copies on the paper as needed.

(A) - Status

1. Introduction

1.1 Status before getting forest rights:

Please think over and address the following questions :

Who used to manage your area?

What rights did you have in the past?

How did you get your daily necessities from the forest? Did you have to pay for it? If so, how much and to whom? Was s/he giving a receipt? Were your needs fulfilled?

Who was protecting the forest in the past? Was there theft of resources? What was being stolen? Who used to steal? Without naming, mention whether the person was from the village or from outside and how many people were stealing. Who was controlling the forest fire? Were the locals participating in it?

What was the condition of the forest? Proportion of which plants in the forest was declining and for which plants it was increasing? In general in totality, was the condition of forest getting better or worse?

1.2 Status after getting Forest Rights:

Who gave information to you about forest rights? Who took the initiative to get forest rights? Who helped? When did you get it?

Will getting forest rights change the situation now? What change is expected? Will the youth of the village take part in the forest work? What do they think about the forest? Does the new generation think that employment will be generated from forest?

2. Village History

Get the history of the village from old knowledgeable people. Information from the Gazetteer will be very important. The following information is expected:

When was the village settled? Which families came first? Why did they select this place? What is the significance of this place to them? Who came later? Years when the village was flooded? What were the consequences? If there were famines, when and what were the situations? Was there an epidemic? What were the consequences of the epidemics? Mention if there are any other major incidents. What special achievements / acts did individuals / families did outside? Add any other information you feel worthy of mentioning.

3. Details of CFR Area :

3.1 Name of Gram Sabha :

3.2 Gram Panchayat :

3.3 Taluka :

3.4 District :

3.5 Census Code :

3.6 Geographical Position

i. Latitude : ii. Longitude :

3.7 Demography :

Number of families :	

S,T.	
S.C.	
Nomadic Tribes	
OBC	
Population of other traditional dwellers	
Male Population	
Female Population	
Total Population	
Tribal Population	
Number of Tapus (Write names)	

3.8. Land use pattern

A table showing the uses of land under CFR and the approximate area of each land use. The following table gives an example. Write down what is applicable in your Gram Sabha area.

Sr.No.	Land Use	Area (ha)
1	Farm land	
2	Forest	
3	Shrubland	
4	Aakhar (Village common land for livestock)	
5	Settlement	
6	Grazing Land	
7	Small waterbody	
8	Graveyard	
9	Compost pit	

10	Place where dead animals are skinned	
11	Road	
12	Canal	
13	River/ Nullah	
14	Open place	
	Total	

You may add or delete the use as is applicable to your Gramsabha.

3.9 Farm Land

Land Type	Area (Ha)
Dryland	
Irrigated	
Total	

3.10 Means of livelihood

Vocation	No. of families
Farming	
Animal husbandry	
Diary	
MFP Collection	

3.11 Facilities in the village

Sr.No.	Facility	Yes / No	Distance (Km.)
1	Primary School		
2	Anganwadi		
3	Village Panchayat Office		
4	Primary Health centre		
5	Patwari Office		
6	P.D.S. Shop		
7	Post Office		

	Distance from Taluka		
	Distance from District headquarter		

3.12 Livestock

Sr. No.	Type of animals	Number
1	Cattle	
2	Buffalo	
3	Goat	
4	Sheep	
5	Poultry	
6	Piggery	

3.13 Cropping Seasons

Sr.No.	Crop	Kharip (Y/N)	Rabi (Y/N)
1	Paddy		
2	Vegetables		
3	Chick Pea		
4	Pigeon Pea		
5	Green Gram		
6	Linseed		
7	Black Gram		
8	Corn		
9	Groundnut		

3.14 Rainfall

Total precipitation in the last 10 to 15 years. This record is available in the tehsil office. Get it from there and write it down.

Year	Total Precipitation (mm)

4 Rights and Responsibilities

4.1 Date of Title of Community Forest Rights

4.2 CFR Title

Copy of TITLE TO COMMMUNITY FOREST RIGHTS : ANNEXURE - II or III - (Under rule 8(h). (Attach as Annexure 1)

4.3 Demarcation of CFR area-

The working group will have to inspect the boundaries of the actual CFR area and mark the boundaries. For this, they may make marking using paint on the trees after removing bark from of small patch of the trunk or alternatively on the stones along the boundary. This will be followed by a taking GPS readings along the boundary.

For making GPS survey of the boundary, download an app called “GPS Logger” on a smart phone. This app is available as an open source and is free. The figure A below shows the mobile screen on starting the app.

Starting from any point on the marked boundary, start the recording by clicking the “Start/ Pause recording” button and start walking along the marked boundary. The app will start recording GPS observations. On

Fig. A: Screen layout of GPS LOGGER

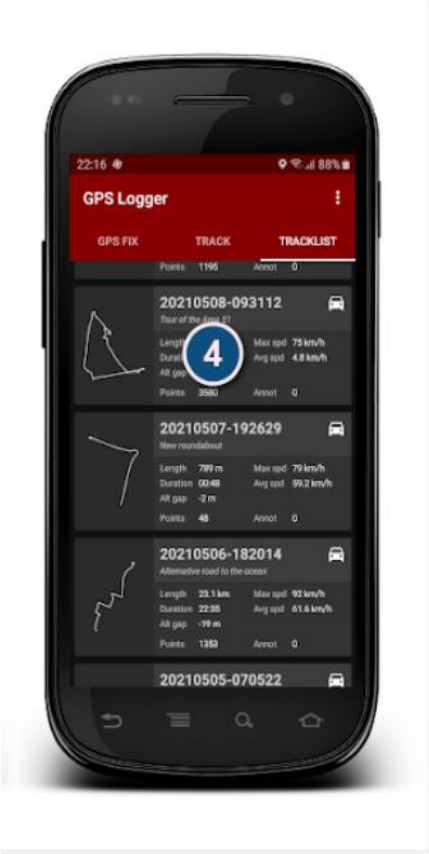


Fig. B: Choosing the track to view it on Google imagery.

reaching the starting point after walking the entire boundary, click the same "Start/ Pause recording" button to stop recording. The observations will be saved as a 'track' in your smartphone as a kml or gpx file and the track is visible if you press "TRACKLIST" button in the main area of the screen.

To view the marked area on 'Google Earth' and find area inside the boundary:

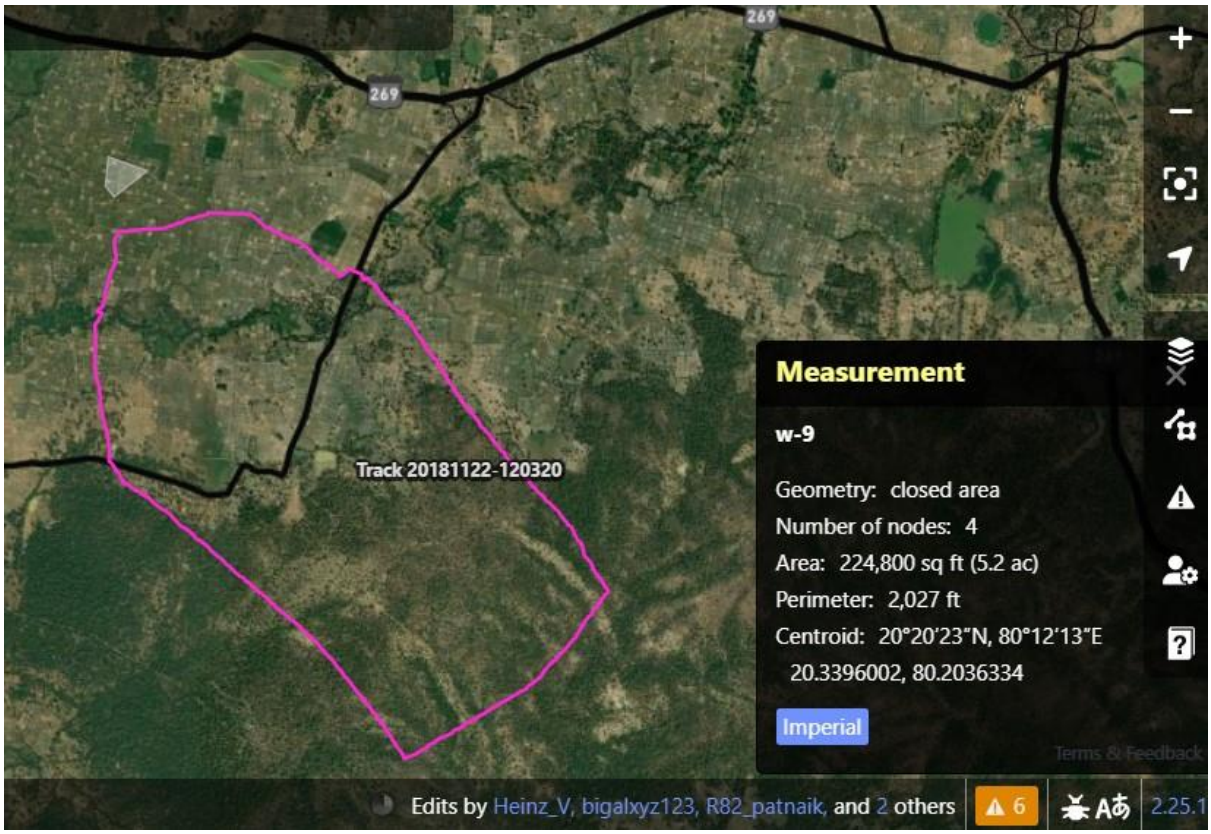
If you already have 'Google Earth' app installed on your smartphone then you will see its icon at the top of the screen. On clicking it, the app will start and the screen will show satellite imagery of your area with marked boundary. On clicking any point on the imagery will show some icons at the top including that of a scale. Click the 'scale' icon and a hollow circular bull-mark will appear. Navigate the bull-mark at some corner of the boundary and click 'Add point' button. Go on navigating and adding points on the boundary by clicking 'Add Point' icon till you reach the first point whereupon 'Close Shape' button appears in place of 'Add Point'. On clicking 'Close Shape' perimeter and area will be shown. You may choose the units for perimeter or area.

Alternatively, start Google Earth application on a PC or laptop and upload a kml / gpx file of the track to get an satellite imagery of the area. You may also get area bound by the track using the same procedure as above. Take a print out of this map that can be added as Annexure 2.

Please note that you should not use this map in any material that you may upload on any platform like wiki where proprietary material is not allowed. We have to use opensource software like OpenStreetMap for uploading images in wiki platform.

To view the marked area on 'OpenStreetMap' and find area inside the boundary:

Alternatively, we can use 'OpenStreetMap' to see the satellite imagery of our demarcated area. This application will have to be installed on your PC.



Start the application and upload the gpx file created by GPS Logger in 'My Trace' section of the application. It takes some time for the file to appear in the list of 'My Trace'. After it appears click on the 'Edit Map' option. The satellite imagery will appear with the demarcated boundary of your area as shown in the figure above. On the extreme right of the screen various icons will appear. Click on the 'Data Map' and a 'Map Data' Panel will appear. Check the boxes for 'OpenStreetMap Data', 'Custom Map Data' and 'Show Measurement Panel'. Now Click the icon at the top of the screen and a cross-wire will appear at the cursor location. Go on clicking sequentially on the boundary points till the entire boundary is covered and you reach at the starting point where you should double-click to end the marking. The 'Measurement' panel will display the following : 1.Geometry, 2.Number of nodes or points you clicked 3.Area in sq.ft and Acre 4.Perimeter and lastly 5.Centroid of the shape of your area.

You may attach this map as Annexure 2. With this map this document may be posted on any wiki platform.

4.4 Nature of Community Rights :

Write the rights and responsibilities as mentioned in Annexure III of the Title of CFR which is being attached as Annexure 1 herewith.

Rights	Yes / no	Remarks if any

Also mention responsibilities.

5. Objectives of Conservation and Management Plan (CMP) and Proposed Activities:

For what purpose do we write this plan? We are suggesting some of the objectives as follows. You may choose from them and rewrite in your way and own language. Please add any other objectives you may think of other than given below.

Better management of forests and biodiversity.

Forest protection - stop deforestation

Sustaining and enhancing the various benefits and services available from the ecosystem

To create employment by sustainable harvesting of Minor Forest Produce (MFP).

Improving the living standards of local people (diet, shelter, health, education, self-esteem, raising individual income.)

Capacity building, especially of the youth (folk art, skills, sports, writing, reading, mathematics, governance, trade - entrepreneurship)

Improving tree regeneration and increasing forest reserves and carbon storage

Using forest in a sustainable manner, Conserving and cultivating biodiversity - algae, fungi, lichen, parasites, wildlife, etc.

Maintaining the soil by arresting soil erosion, conserving water, improving organic matter content of the soil

Protecting wildlife

Reviving good practices like “polo” and starting similar activities.

Proposal of activities to achieve the objectives?

To accomplish the above objectives, you need to outline what you intend to do. Such as - activities for strengthening of the Gram Sabha, formulation of rules for proper functioning of the Gram Sabha, timely meetings of the Gram Sabha, voluntary manual labour, efforts to implement NREGS through gram sabha, formulation of rules for sustainable use of resources, e.g. Grazing, firewood collection, use of MFP, Nistar, financial transactions, rules for fishing etc. To form various committees and activate them, to decide policies to maintain relationships with other gram sabhas. Rules for sacred grove or Devarai if in existence else efforts to create one or more and formulate rules for it.

Enter the objectives and activities to achieve the objective in the table below::

Objective	Activities to achieve the objective

6. Geographical information of Community Resource

6.1 Maps:

Use one or more of the following maps and mention their names.

A. The toposheet – It shows lines connecting points of equal height on the ground. This shows the elevation of the place, the ups and downs, the rivers and streams and their basins (Basin of a river or stream is the area from which the run off goes into the stream or river) With this one can plan the work of watershed development. These toposheets are available for sale at Survey of India's outlets in Pune, Hyderabad, Delhi etc.

B. Patwari Map - This map belongs to the Revenue Department. A certified copy can be obtained.

C. Forest Map - This belongs to the Forest Department. A certified copy can be obtained.

D. A satellite imagery map showing the demarcated boundaries of the Gram Sabha on Google Earth

On these maps you will find places of acquaintance of local people e.g. Rivers, streams, lakes, small streams, forests, grasslands, rocky areas, agricultural land, settlements etc. So the villagers will find the map interesting and useful. Get started with one of these available maps. Mention the maps used.

Attach the available maps as Annexure 3.

Make a large (e.g. 1.5 m x 1.5 m) print of the Google Map on Flex and put it on the wall in the Gram Sabha office. On this you can show many things with temporary marker pen. e.g. Different types of forests, farm lands, land-patches known by different names, etc. Doing this in a participatory manner increases people's interest in further work.

6.2 Forest Compartments

Forest Compartments numbers obtained as per Annexure 3 of CFR title, survey number, if any, area of each compartment if given and total area, action taken in case of dispute regarding compartments.

Forest compartment No.	survey number/s	Reserved forest area (ha)	Protected Forest area (ha)	Other area (ha)	Total Area (ha)	Brief description if disputed

6.3 All four Boundaries:

A description of the area of other Gramsabhas on all sides beyond the CFR boundaries of our Gram Sabha.

Direction	Boundaries of neighboring Gramsabhas or other land marks	Neighboring Compartment Nos.

6.4 Status of Boundaries:

Write a description of how the boundary is indicated on the ground and how it is maintained. Give information if there is a boundary dispute with the neighbouring Gram Sabha.

6.5 Landscape – Waterscape Elements in your area

The various landscapes and waterscapes types under your jurisdiction are to be given here. You can have more than one piece of each type in your area. A standardized list is given below. List the land and water bodies that are in your area. The same list will be useful for habitat.

Table: Landscape - Waterscape types (Standard List)	
1) Grassland: Mainly grass covered area	15) Creeks
2) Shrubland open: Shrubs with scattered shrubs	16) Swampy region
3) Forest low density	17) The sea
4) Forest medium density	18) Groundwater
5) Forest dense	19) Rocky sea coast
6) Agriculture: Land for seasonal crops	20) Sandy beach
7) Orchard: Orchard (mango, orange) or plantation of teak, cashew, eucalyptus)	21) Swampy beach
8) Rocky land: Open rocky terrain	22) Mangrove
9) Settlement of dense population	23) Market
10) Settlement of sparse population	24) Warehouses
11) Stream, rivers	25) Factories
12) Canals	26) Special reserves of biodiversity - eg zoos, parks
13) Natural pond	27) Animal Husbandry Land - e.g. Dairy, Poultry
14) Man-made lakes, dams	

Detailed information on Landscape and Waterscape Elements (LSE/WSE):

Details of all Landscape and Waterscape Elements are to be given here. The following details are to be recorded: number on the map, LSE/WSE type (one from the standard list given above), Approximate area (in hectares), Names of tapus of which the plot is a part, Human intervention e.g. : Irrigation, tree plantation, arable fields, settlements, water conservation, grazing, tree felling etc. This table should be attached as Annexure 4.

Sr. No.	LSE/ WSE number	LSE/ WSE Type	Part of which Tapu	Approximate area (ha)	Human Intervention

6.6 List of tapus :

Just as in a large village, different localities are known by different names, so the different areas inside the village boundary and forest are known by different names. The names of different areas inside a village in Gadchiroli district and the forest are as follows*: Laya Khindi. Edger, pat kohala, Murum Kohala, Chichban* etc. Let's call these parts an 'tapu'.

These tapus are often named after an event or geographical characteristic of the area e.g. *Chichban* means there are a lot of tamarind trees in this area, bear comes to the tapu called *Edger* to drink water. In Gondi language, Edge means bear and Yer means water. *Sahebanmetta* was the area where an Englishman climbed this hill for the first time. Thus there is some reason why the tapu is so named. The name brings the area to our mind quickly. Suppose a fire breaks out in a forest area. At such times it is difficult for a layman to convey the location of the fire by giving the forest compartment number. But if such conventional names are used, the location comes to mind quickly. So, it is important to make a list of all tapus. The tapus should also be shown on the village map.

Table giving details of tapus in the CFR area:

Name of the Tapu	Approx. Area (Ha)	Other details

6.7 Threats to forest resources:

We have to record all those threats from which we have to protect our forest resources. Provide detailed information about them e. g, forest fire, theft by outsiders or villagers, illegal grazing, encroachment etc.

7. Study of Organisms:

Assessing the total amount of community forest resources and to understand various effects on them is an important part of forest management. There are seven main objectives of such study. They are:

[1] Recording the occurrence of different species of plants, earthworms, insects, crustaceans like crabs or prawns, fish, frogs, snakes and lizards, birds and mammals

[2] Determining the extent of abundance of different species of plants, or fish in the CFR area,

[3] Then focusing on selected important species, record the following information in more detail about them: e.g. The average number of different trees per hectare on different landscapes and their average basal area. This gives the biomass of these trees. (E.g. the total number of Mahua [Madhuca longifolia] trees and their average size, which is determined by the basal area.)

[4] Determining the extent of human interventions such as felling of trees, bamboo felling, cattle grazing, etc., and the impact they have on the environment,

[5] What are the consequences of harvesting different species in different ways, for example, what are the consequences of cutting bamboo in different proportions, at different heights, what are the consequences of different kinds of cuts to extract gum,

[6] To decide on what are the alternatives to the present day exploitation of nature that is going, for example grazing cattle or cutting bamboo. What are the proper methods with restraint?

[7] To Determine whether community forest area should be strictly protected in whole or partially to a large extent and if protection is to be given then extent of protection and places to be protected.

7.1 List of plants and qualitative abundance

(This list should be given as Annexure 5)

First of all, the knowledgeable people of the village should sit together and make a list of all the plants under their jurisdiction i.e. trees, vines, shrubs, herbs and note the names of the plants in the local language namely Gondi, Ahirani, Korku, Madiya etc. and also in Marathi or state language. Also note other information: name of local language, whether the plant is endemic or exotic, type of plant, where it is found, it's habitat, cultivated or wild and the qualitative abundance (like- abundant, medium, low, very low) of this plant in your area. Women in particular should be included in this exercise. Experience has shown that women know more about plants than men. As far as possible, we want to record the scientific names of all these plants.

The scientific name of the plant is usually unknown to us. Fill in the table without it. Habitat should be selected from Standard list of habitat is given in sec.6.5. The list of types of plant is to be selected from the list given below.

Sr. No.	Marathi or other state language name of the plant	Local name of the plant	Local language	If endemic or exotic	Scientific Name Plant	Plant Type	Habitat	Cultivated / Wild / Both	Availability (Plenty, Medium, Low, Very Low)

Types of Plants:

Types of plants

1. Microbes
2. Algae
3. Moss
4. Lichen
5. Fungi / mushrooms
6. Fern
7. Gymnosperm
8. Flowering plants

Use Google Lens for a scientific Name of a plant - We need a botanist to find the scientific name of the plant in front of you. But with the "Google Lens" app in smartphones, we can solve this problem at our own level. The flowers, leaves, stems, etc. of the plant should be photographed with a smartphone. Launch the Google Lens app, click on the photo icon and bring the photo into the frame of the app. If you click 'search', Google will search millions of photos stored in Google's repository, and will show several photos of the same plant that match the photo you uploaded and will also show the scientific name. In this case, three things can happen: (1) If these photos seem to match your plant, then accept the scientific name. (2) Sometimes

photos of more than one plant are given as an alternative. You have to accept the name of the photo that matches the best. (3) No photo matches to your satisfaction. In such a case, you should take a better photo and try again.

7.2 Details of requirement and utilization of benefits under CFR

In the above list we have recorded all the plants known to us under our jurisdiction. But only some of these plants are important for various reasons viz. Food, fodder for cattle, agriculture, tools, firewood, construction, herbs etc. According to this law we can use them sustainably as per our need. We can also collect, store, process and sell the minor forest produce. The following types of requirements should be considered:

7.2.1 Uses - Food
7.2.2 Use - Fodder
7.2.3 Uses - Firewood
7.2.4 Use - Construction (House/Cattle Barn)
7.2.5 Use - Agricultural implements
7.2.6 Use - Fencing
7.2.7 Use - For cultural work
7.2.8 Uses - Medicinal use
7.2.9 Uses - Other uses (to be specified)

We are going to record the uses of forest produce useful for these various purposes as given in the table below. A separate chart should be used for each use:

Sr. No.	Forest Produce		Season and period (in Months)	No. of families involved	Percentage (%) of quantity used in one season		Remark
	Name of the plant	Useful part			From CFR area	From other forest area	

If the abundance of the plant is declining, should it be protected-conserved or should some other alternative be found, if necessary, should be recorded in the comment column.

Apart from this one has to consider the forest produce collected by the community for sale.

7.2.10 Information on forest produce collected for sale by the community

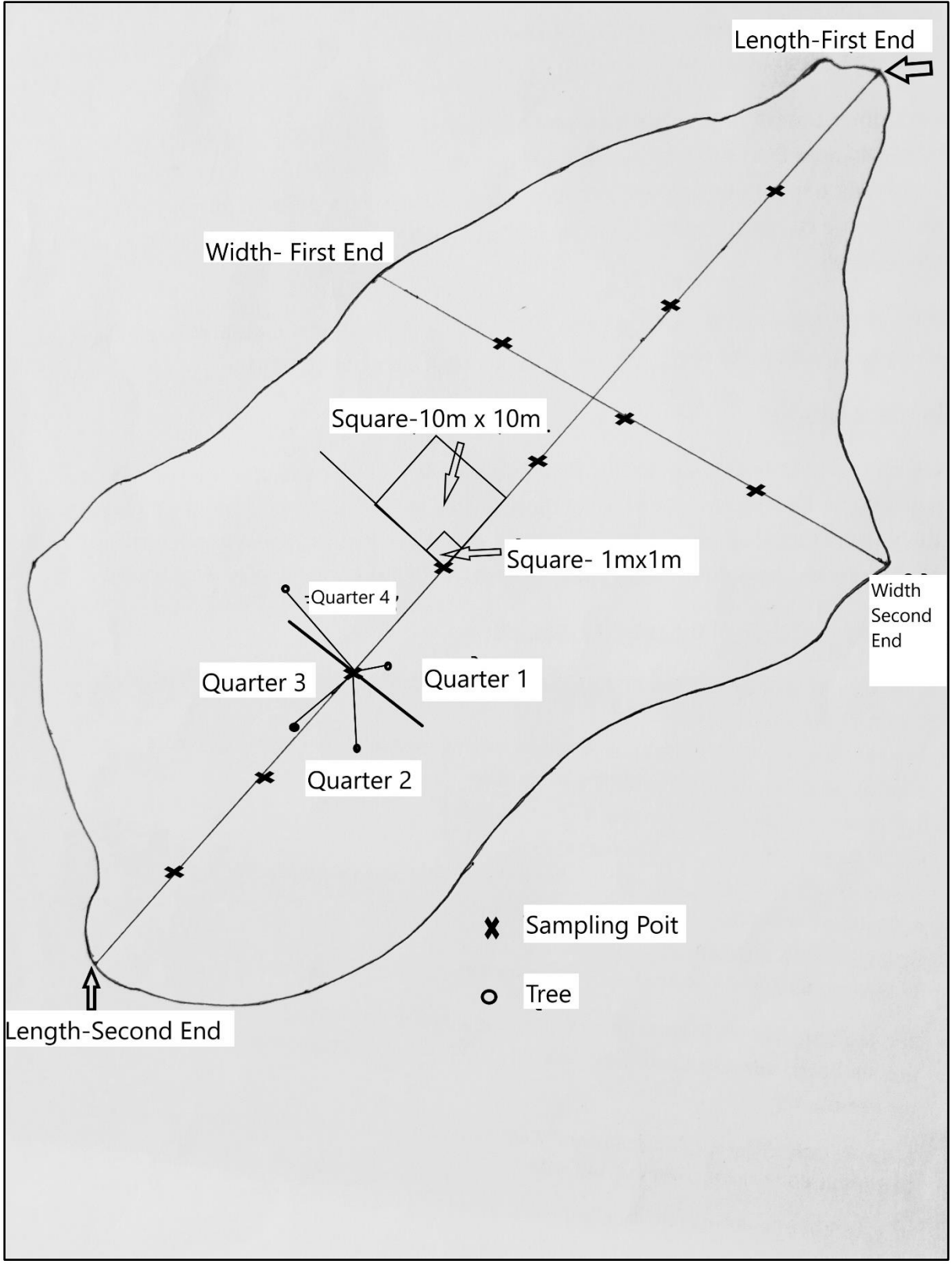
Sr. No.	Name of the produce	Season and period of collection	Families involved	Season and period of collection	Percentage of average quantity collected in each season	Average Market price of the produce	Value addition	Place of sale	% collection from CFR area	% collection from forest other than CFR area

7.3 Quantitative estimation of plant species

7.3.1 Quantitative estimation of trees on selected landscapes:

We have already listed all the plants we know in your area. But some of these plants, especially trees are important for various reasons e.g. Agriculture, tools, construction, MFP etc. So, if we have a good estimate of their quantity or an estimate of number in our jurisdiction, it will be useful for planning protection, plantation, marketing, etc. Hence, we conduct a study for numerical estimation.

For this we will use the Point Centred Quarter Method. This is a plotless method where we need not take any specific plot. Suppose shape of our landscape is as shown in the following figure:



On this landscape, we should ideally to take 10 points by taking the latitude / longitude randomly. This method is a bit complicated. So, we will use another method which is not rigorous but simple. Such patches of landscapes are very likely to be irregular as shown in the figure. In this method we find the two ends of this landscape patch such that distance

between them is maximum. Let's call it the length of this patch. The width of this shape will be a line approximately at right angle to length. We draw it where the width is maximum. Now for taking observations let us take 10 equidistant points on these two lines. Let's do this as follows:

Walk straight along the long line from one end to the other and count the number of steps. Also, count the number of steps while walking from one end of the line of width to the other. E.g. Suppose walking along a line of length, the distance is 397 steps and for the width the distance is 207 steps. Together for both these lines we have to take 10 points at equal distances. For this we have to divide the total steps by 12. This means we divide (207 + 397 =) 604 by 12. I.e. 604 ÷ 12 ≈ 50. Now start walking from one end of the length and after each 50 steps mark a point. We will get 7 points, leaving two end points. Also along the width 3 points will be obtained by leaving two end points.

Observations in four quarters for tree density: Draw a second line at right angles to the main line at each sampling point. This gives us four quarters at each sampling point. Let us number these quarters clockwise as 1,2,3 and 4.

Let us now make the following observations in the first quarter: Find the nearest tree in this quarter. A plant with a circumference of 13 cm at a height of 1.3 m. or more is considered as a tree. Let us note the species of this nearest tree. Find the distance from the sampling point to the centre of the tree and the circumference of the tree at a height of 1.3 m. from the ground. If nearest is a bamboo clump, it should be considered as a tree, distance should be recorded from the centre of the clump but girth should not be recorded. Observation of girth should be kept blank.

For the remaining three quarters record the same observations as above. This means for each point, observations should be made in each of the 4 quarters. Thus for 10 points there will be 4 x 10 = 40 sets of observations for this landscape element.

These observations may be entered in EXCEL sheet.

If for a tree there are more than on branch above 1.3 meters from ground, then girths of all of them should be measured as shown in the table below.

Sr.No.	Point No.	Quarter	Name of nearest Tree	Dist. From the point (m)	Girth at Breast Height.(cm) for nth Branch (Cn)										Resultant Basal Area (A) (sq,cm)
					1	2	3	4	5	6	7	8	9	10	

Formula $A = \sum C_n \times C_n / (4 \times \pi)$

Based on these Point Centered Quarter observations, the average number of trees per hectare and the average basal area of the trees per hectare can be found :

The distances of the nearest trees in each quarters are recorded in meters. Let D be the distance of the nearest tree from the sample point in a quarter.

Suppose N is the total number of observations.

Hence the average distance Da, $Da = (\Sigma D) / N$.

Let's say the total number of trees per hectare is K.

Therefore, $K = 10,000 / (Da^2)$

If there are a few quarters with no trees in it, then the value of K will be less and it needs to be corrected. Suppose VacQrt is the number of such empty quarters.

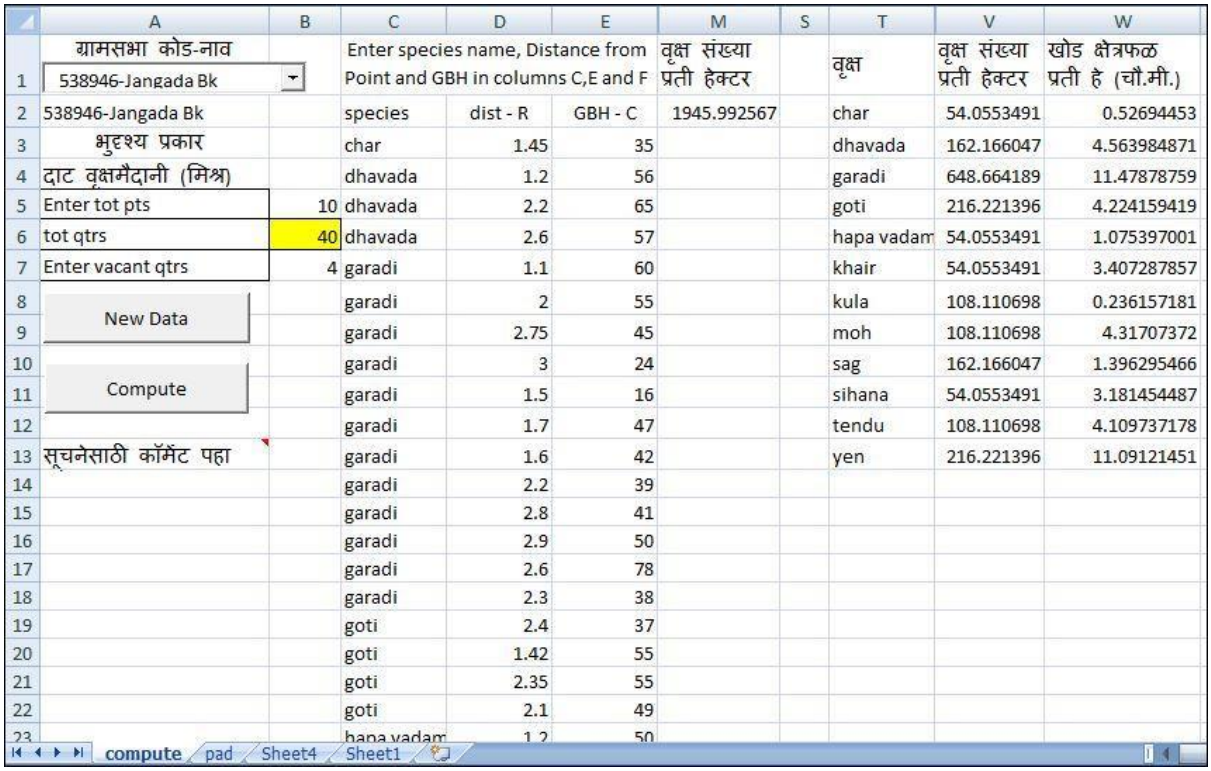
Hence, correct number of trees per hectare, K' = K x (Correction Multiplier)

Where Correction Multiplier = 1 - [VacQtr / {4 x N}] .

After this, let us calculate how many times the tree species ‘v’ was found. Suppose this number is (Nv).

From this, the number of trees of species v per hectare, K'v = K' x Nv / N. Let us now find the average basal area of each species from the above table. Suppose the average basal area of a particular species v is Av cm^2. Hence the average basal area for species v in sq. meter will be Av/10000 Thus, the basal area for species v per hectare = K'v x Av /10000 (sq. m.).

We can do all the above calculations using an macro-enabled EXCEL sheet. For these calculations, all the mathematical steps have already been saved (called macro) in this sheet. Such a sheet is called a Macro-Enabled Worksheet. It is shown in the picture below.



	A	B	C	D	E	M	S	T	V	W
1	ग्रामसभा कोड-नाव 538946-Jangada Bk		Enter species name, Distance from Point and GBH in columns C,E and F			वृक्ष संख्या प्रती हेक्टर		वृक्ष	वृक्ष संख्या प्रती हेक्टर	खोड क्षेत्रफळ प्रती हे (चौ.मी.)
2	538946-Jangada Bk		species	dist - R	GBH - C	1945.992567		char	54.0553491	0.52694453
3	भुदृश्य प्रकार		char	1.45	35			dhavada	162.166047	4.563984871
4	दाट वृक्षमैदानी (मिश्र)		dhavada	1.2	56			garadi	648.664189	11.47878759
5	Enter tot pts	10	dhavada	2.2	65			goti	216.221396	4.224159419
6	tot qtrs	40	dhavada	2.6	57			hapa vadam	54.0553491	1.075397001
7	Enter vacant qtrs	4	garadi	1.1	60			khair	54.0553491	3.407287857
8	New Data		garadi	2	55			kula	108.110698	0.236157181
9			garadi	2.75	45			moh	108.110698	4.31707372
10			garadi	3	24			sag	162.166047	1.396295466
11	Compute		garadi	1.5	16			sihana	54.0553491	3.181454487
12			garadi	1.7	47			tendu	108.110698	4.109737178
13	सूचनेसाठी कॉमेंट पहा		garadi	1.6	42			yen	216.221396	11.09121451
14			garadi	2.2	39					
15			garadi	2.8	41					
16			garadi	2.9	50					
17			garadi	2.6	78					
18			garadi	2.3	38					
19			goti	2.4	37					
20			goti	1.42	55					
21			goti	2.35	55					
22			goti	2.1	49					
23			hapa vadam	1.2	50					

compute | pad | Sheet4 | Sheet1

We will see that it is very easy to use. When you open this sheet, it may contain data previously inserted. To clear it click on the New Data button. All the data in the sheet will be cleared. Now copy the last three columns v, D, C from the table above and paste them under the headings of 'species', 'Dist – R' and 'GBH – C' columns in this sheet. Then enter the total number of points N in front of label 'Enter tot pts', the total quarters in front of 'tot qtrs' and the total vacant quarters in front of 'Enter vacant qtrs' and press 'Compute'. The result will be displayed. Copy the result and save all the columns - types of tree, numbers per ha and basal area per ha. This is

useful in your conservation and management plan. We can compile this report by doing above computations for all types of landscapes.

7.3.2 Numerical Estimates for Bamboo on Different Landscapes

If you have bamboo in some of the landscape types in your area, you should make a numerical estimate of bamboo of different sizes which will be useful at the time of sale of this bamboo. In the previous survey, the average number of bamboo clumps per hectare on different elements of landscapes are estimated. From that it can be decided where the bamboo felling is practical or to prepare a bamboo felling series. It would be useful to estimate the number of bamboos of different sizes there. This can be estimated as follows. From this selected landscape element select ten clumps as follows: three large, four medium and three small clumps. Estimation of the number of trees per hectare in the landscape is obtained from sec.7.3.1. The area of landscape element is obtained from sec. 6.5. Note observations for all these clumps in the EXCEL Sheet shown below.

Landscape Type: Landscape Element Number:

Tapu:

Clump No.	Lat. Of clump	Long. Of clump	No. of bamboos 3 years old or above	No. of medium bamboos 3 years old or above	No. of bamboos for bundles	No. of fresh shoots	No. of bamboos 1 to 2 years old	No. of bamboos 2 to 3 years old

Average number of Bamboo per clump (a)								
Average number of clumps per ha (b)								
Area of the LSE (c)								
Total salable bamboos in the LSE = a x b x c								

In this way, bamboo estimates can be calculated for each landscape element and included in the action plan.

7.4 Rare trees, creepers, lianas, shrubs, herbs :

Older people may tell that there were some plants in our area in the past, but they have been widely cut for various reasons and have now become rare. Some plant species were already rare. People may have now realized that the availability of both these plants should be augmented. Here we will collect the information about such plants. In this table enter the local name

of the plant, Marathi or other state language name, its present condition, its previous condition, the reasons for its decline and what we are going to do to increase it.

Sr. No.	Local name of the plant	Marathi or other state language name of the plant	Present status: extinct/ very rare/ rare	Previous status: abundant/ medium/ rare	Reasons for decline	Efforts to revive

7.5. List of plants on private spaces:

List of plants around private houses, agricultural lands, inside settlement should be given here. Record the following: local name, Marathi or other state language name, if cultivated or wild or both, extent of abundance, if rare and if a nuisance.

Sr. No.	Local name of the plant	Marathi or other state language name of the plant	Wild/ cultivated/ both	Extent of abundance: Abundant/ Medium/ less	Is it rare: Yes/No	Nuisance value: Yes/ No

8. Wildlife List:

Here we will enlist all elements of wild biodiversity. We will note the name of organism, type of organism and its abundance qualitatively. The types of organisms are as follows:

(i) Animals

(ii) Birds

(iii) Types of bees and other insects

(iv) Reptiles

(v) Aquatic

(vi) Aquatic as well as terrestrial organisms (eg frogs, crabs)

Sr. No.	Name of the organism in local language	Type of organism	Qualitative abundance : Plenty / Medium / Low / Rare

This list will be given as Annexure 6.

9. Minerals

The information of minor minerals in our CFR area is to be recorded in the table below.

Sr. No.	Name of the minor Mineral in state language	Name of the minor Mineral in local language	Extent (Abundant / Medium / Less)	Name of the Tapu where found

10. Capacity Building of Gramsabha

10.1 Organizations

Information about the committees / bodies for different subject activities in the village. Give Information on the efforts for Strengthening them.

10.2 Rules for self-governance

Give the rules for the following. Write down the subjects and rules which are already made or will be made. If there are more or different subjects than these 10 subjects, then mention them and write the rules made for them.

10.2.1 Rules for Patrolling Forest

10.2.2 Rules for grazing

10.2.3 Rules for the use of forest produce for Gramsabha members

10.2.4 Rules for use of forest produce for outsiders

10.2.5 Rules for forest reserves such as Pengeda or Devarai

10.2.6 Rules for dealing with other Gramsabha and federations

10.2.7 Rules for Bank Account Transactions

10.2.8 Rules for account keeping

10.2.9 Rules regarding financial transactions / taxes / audits

10.2.10 Rules for dealing with other Gramsabhas and Gramsabha Federation

11. Government Schemes

Note down all the Government Schemes which are in force in your Gramsabha area.

12. Time-Table of activities in different seasons

In this table we are suggesting some activities. You may keep those which are applicable in your case and delete which are not applicable. Also you should add those which are not present in this list. Put Yes/ No in the boxes as applicable.

Sr. No.	Name of Activity	Name of Govt. Scheme / Line dept. which helps in this activity.	January	February	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
1	Clearing the boundary													
2	Mixed Nursery													
3	Medicinal Plant													

	Nursery													
4	Bamboo nursery													
5	Mixed plantations													
6	Medicinal plant nursery													
7	Bamboo plantation													
8	Planting grass for grazing													
9	Sludge removal from Forest pond													
10	New Forest pond													
11	Earthen dams													
12	Cement dams													
13	Diversion dams													
14	Stone embankment													
15	Gabion embankments													
16	Cement Plug Dams													
17	Underground dams													
18	D.C.C.T													
19	T.C.M													
20	Digging trenches													
21	Horticulture													
22	Plantation of trees in scattered form													
23	Roadside Plantation													

24	backyard													
25	Rearing of silkworm													
26	Temporary roads													
27	Drainage construction													
28	Cleaning the Forest roads													

13. Livelihood programs based on Minor Forest Produce (MFP)

Here a give a list of the works / production activities that can be undertaken based on different MFPs available in our area. Also, what kind of training the people of the village would need for this should be mentioned before each activity.

14. Festivals related to Natural Resources:

Festivals related to the natural resources are celebrated by the people who live close to the nature and depend on them especially tribal people. There are certain traditions and rules associated with these festivals through which nature is protected as well as conserved. These traditions are the traditions of nature conservation. In this section we will give information about such festivals. This includes the name of the festival, the time when it is celebrated, the name of relevant resource like tree / plant / their class e.g., Fodder, fish, fruit and the related rules as well as how protection and conservation of the resource `is achieved.

Sr. No. .	Name of the festival	When celebrated - month/ nakshtra	Related resource	Rules to be followed	How protection and conservation of the resource `is achieved.

(B) - Planning

We are suggesting planning for the following activities. Apart from this, if more activities can be done in your area, they should also be included in the planning. Many aspects to be considered for the planning of these activities have been mentioned below. To name a few, suitable months for work, approximate area covered in the activity, names of tapus, names of relevant government departments, estimated amount (in lakhs), skilled and unskilled labour days etc. need to be considered.

1. Bamboo Harvesting Cycle: (For ten years)

The bamboo bearing areas should be divided into three groups so that equal amount of bamboo is available for harvesting each year. Bamboos in these group should be harvested as shown in the following table. This is called Bamboo Harvesting Cycle. Which tapus are included in which group and from which area bamboo should be harvested every year and how

much manpower will be required should be shown in the planning as follows:

Bamboo Harvesting Cycle			
Year	Group No.	Names of the Tapus in the group	Man-days required
First	1		
Second	2		
Third	3		
Fourth	1		
Fifth	2		
Sixth	3		
Seventh	1		
Eighth	2		
Ninth	3		
Tenth	1		

Moreover, the estimated cost of the roads that need to be built to bring the bamboo out of the forest should be included in the road planning. It should be mentioned that this is a recurring cost that will be incurred every year.

Estimation of available bamboo quantity for current year:

The number of bamboos available for the current year can be estimated from the observations like those taken in sec. 7.3.2. Here we are giving some sample data:

LSE	Tapu/s	No. of clumps per ha. (a)	Area (ha) of LSE (b)	Tot. no. of clumps = a x b	Average no. of long bamboos over 3	Tot. no. of long bamboos over 3 years	Average no. of medium bamboos over	Tot. no. of medium bamboos over 3	Average no. of bamboos for bundle per	Tot. no. of bamboos for bundle = (a x

(1)	(2)	(3)	(4)	(5)	years per clump (c) (6)	(c) = (a x b x c) (7)	3 years per clump (d) (8)	years (c) = (a x b x d) (9)	clump (e) (10)	b x e) (11)
34) Dense trees - hilly (bamboo)	Karyalmetta (Middle part)	60.7	25	1517.5	11	16,692	18	27,315	13	19,727
32) Medium Trees - hilly (Bamboo)	Nendhur Gudra	78.98	20	1579.6	54281		46670		39921	
26) Rare Trees - Plains (Bam	Latmetta	108.09	25	2702.25	52571		39551		28005	

boo)										

Total of Long and medium bamboos above 3 years and bamboos suitable for bundle are given in columns 7, 9 and 11 respectively. These numbers will be offered for this year's auction.

2. Sustainable Minor Forest Produce (MFP) Harvesting :

The information about the plants to be harvested should be collected. The information includes - Name of the plant, name of the tapu, method of harvesting, approximate weight or number. Following table shows such information with sample data :

Sr. No.	Plant	Tapu	Method of harvest	Total wt. (kg)	Number
1	Asparagus	Pat Kohala, Niral Panja, Bandarin, Hudaki	While collecting tubers, only 20 percent of plants should be extracted, other 80 percent of plants should not be touched. For plants that sprout from the roots like asparagus, only a portion of the roots should be collected.	10	
2	Behada	Patachi Dan, chichban, aakar, Manora Gudra	Pick up the fruits fallen on the ground after shaking the tree lightly	200	

3	.....	.....	.....	.....	

3. Nursery:

Nursery through MGNREGA: Give the following details after detailed discussions with the local people.

Location, area (ha), How the provision for water supply will be done, fencing system, variety and number of plants, manpower estimate, estimate of one-time expenditure and recurring annual cost.

4. Plantation:

Plantation - Through MNREGS: Give the following details after detailed discussions with the local, experienced people.

Place, area (ha), How the provision for water supply will be made, Year by year expenses will have to be estimated. A tentative table is given here. You my add more details as required.

Year	Number of saplings	Cost of digging pits	Cost of plantation	Manure Cost	Labour cost for watering	Payment to guard	Cost for mending fencing

5. Watershed development:

To be done through MNREGS

To be discussed in Gramsabha and details should be given like:

Nature of work, Place, Man-women days needed, material required, time when the work should be undertaken, estimated expenses.

More details may be added if required.

6. Forest ponds

1) If a new forest pond is to be constructed, complete details and cost estimate should be given.

2) Maintenance of old ponds and pitching : Give all details of repairs, material cost, labour charge.

3) Sludge removal from old ponds

7. Temporary Roads for Forest Management:

Forest temporary road plan (through MNREGA) should be prepared.

The Gramsabha should decide where such roads are needed for management of the forest e.g., for transporting bamboo, other MFP or for patrolling. Following details should be given: from where to where, distance in km., manpower, number of days, cost of construction materials, total cost estimate.

8. Fireline management:

Following details should be given: Patrol plan, maintenance of roads plan, new fire-line if any, approximate manpower, approximate cost.

9. Medicinal plant Nursery

10. Medicinal plant cultivation

11. Value addition and marketing of MFP :

If MFP is processed and then marketed it fetches more price and gives employment opportunities. Planning should be done for processing on different MPF wherever possible.

12. Fish farming.

13. Roadside plantation and its maintenance.

14. Establishment of Biodiversity Reserve (Pengeda, Devrai or sacred grove):

We propose that the minimum area to be maintained for strict protection of Biodiversity (Pengeda or Devrai) should be at least 5% of the total

community forest area. More area can be reserved than required. The following criteria should be used to select such areas / tapus.

Criteria - 1 Some part should be rich in biodiversity

Criteria - 2 Some area where biodiversity loss is high should chosen.

Criteria - 3 Some parts should have a source/s of water.

Criteria - 4 Some parts where there is no water source.

Criteria- 5 Different types of habitat should be get representation.

Criteria- 6 It will be a good idea to select the area where the villagers frequent minimally.

A small study group should examine the pros and cons in selecting the area and final decision should be taken in the Gramsabha for final action.

Yearly planning for 10 years:

After planning for each activity, prepare a table showing consolidated planning for one year. Prepare such year-wise separate tables for coming 10 years:

Year :

Sr. No.	Name of the Activity	Months (Mention names)	Area / Length for the activity	Tapu	Names of related Line department	Approx. Expenses (lakhs)	Labour days: Skilled and unskilled	Expected Outcome

Here is an example of planning of Jangada (Bu) for the year 2024-2025:

Period : April 2024- March 2025

Sr. No.	Name of the Activity	Months (Mention names)	Area / Length for the activity	Tapu	Names of related Line department	Approx. Expenses (lakhs)	Labour days: Skilled	Expected Outcome
1	Godown (Maintenance and repair)	All year	1000 sq. m.	Patachi Dan	MNREGS	2	730 labour days (2 skilled workers for 365)	MFP can be stored and sold at proper time.
2	Medicinal plant nursery maintenance	All year	0.5 ha	Both Khairi tola and Itam tola	MNREGS / ZP / FD	2	730 labour days (2 unskilled workers for 365)	Required plants will be available and may be cultivated in CFR Area.
3	Scattered Plantation and its maintenance	April, May	25 ha	Coup no. 588 (Manora Gudra)	MNREGS / ZP / FD	10	3900 labour days (65 unskilled workers for 60 days)	Increase tree density and biodiversity
4	Remove sediment	May	1 ha	Vati Bodi in	MNREGS / ZP / FD	10	3900 labour	Increase water

	and apply pitching			Coup no. 568			days (130 unskilled workers for 30 days)	table, increase storage capacity which will help fish farming.
5	Bamboo Nursery	All year	0.5 ha	Madavi tola	MNREGS / ZP / FD	10	3630 labour days (11 unskilled workers for 330 days)	Required plants will be available and may be cultivated in CFR Area.
6	Mixed Plantation	All year	10	Coup no. 569 (Tekar)	MNREGS / ZP / FD	10	3630 labour days (11 unskilled workers for 330 days)	Required plants will be available and may be cultivated in CFR Area and increase biodiversity
7	Fodder plantation and its protection	All year	25 ha	Open space in Coup no. 588 (Tekar)	MNREGS / ZP / FD	20	3300 labour days (11 unskilled workers for 300	Livestock should get enough fodder. This will reduce the problems caused by free

							days)	grazing.
8	Roadside plantation and beautification	June	400 meters	Main Rd to Madavitola to Motha Tala	MNREGS / ZP / FD	4	676 labour days (26 unskilled workers for 26 days)	This will cause beautification of the road and will give shadow.
9	Plantation on bank of river and pond	May, June	600 Mtr	Motha Talav	MNREGS / ZP / FD	10	3900 labour days (65 unskilled workers for 60 days)	Erosion of bunds will be arrested and water will be retained for longer period.
10	Fish farms	July	2 Ponds	Mhadeo and Motha Talav	MNREGS / ZP / FD	4	1350 labour days (5 skilled workers for 270 days)	People will get opportunity for self-employment
11	New Forest Pond	December	1 forest pond	In Coup no. 568	MNREGS / ZP / FD	10	3900 labour days (130 unskilled workers for	Increase water table, increase storage capacity which will help fish

							30 days)	farming.
12	Earthen Dam	Dec	2	Nalla in coup no.568	MNREGS / ZP / FD	2	770 labour days (55 unskilled workers for 14 days)	Water will be stored in the stream which may be used later when needed
13	Stone bund	Dec	2	Nulla in 568	MNREGS / ZP / FD	2	770 labour days (55 unskilled workers for 14 days)	Top fertile soil will not wash away and conserve soil
14	Forest Bund	Jan	2	Nulla in coup no. 568	MNREGS / ZP / FD	2	781 मनुष्य दिवस (55 मजूर 14 दिवस काम करतील)	Water will be stored in the stream which may be used later when needed
15	Gabion bund	Jan	2	In the Nulla in coup no. 568	MNREGS / ZP / FD	2	770 labour days (55 unskilled worker	Top fertile soil will not wash away and conserve soil

							s for 14 days)	
16	Clearing of boundary	Jan	458.54 mtr	Entire boundary	MNREGS / ZP / FD	1.5	550 labour days (50 unskilled workers for 11 days)	Disputes of village boundary will be avoided. Help in control of forest fire.
Total amount - Rs. In lakhs						101.5		

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Annexures:

Annexure 1: Community Forest Rights Title (Annexure II or III): Photocopy should be attached.

Annexure 2: Satellite Imagery with demarcation of area under CFR.

Annexure 3: Other available Maps

Annexure 4: List of LSE / WSE with details

Annexure 5: List of plants and their qualitative abundance

Annexure 6: List of Wildlife

About the authors:

Madhav Gadgil, M.Sc., Ph.D., Harvard alumni, an Indian ecologist, writer, columnist and the founder of the *Centre for Ecological Sciences*, Indian Institute of Science. A former member of the Scientific Advisory Council to the Prime Minister of India and the Head of the *Western Ghats Ecology Expert Panel* (WGEEP) of 2010, popularly known as the 'Gadgil Commission'. Recipient of the Volvo Environment Prize and the Tyler Prize for Environmental Achievement. Recipient of the fourth highest civilian award, Padma Shri in 1981 followed by the third highest award, Padma Bhushan in 2006.

Vijay Edlabadkar, M.Sc. (Physics) and Ph.D. from Nagpur University, Taught Physics and Computer Science for 35 years, Retired as Principal of Mahatma Gandhi College, Armori, Dist. Gadchiroli, Participated in the development of several software packages including PEBINFO for PBR, Working with a group of youth in Gadchiroli district involved in the implementation of CFR.